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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,645	03/13/2001	John M. Vranish	GSC 14,339-1	1596

7590 12/31/2003

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EXAMINER	
DHARIA, PRABODH M	

ART UNIT	PAPER NUMBER
2673	6

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/804,645	Applicant(s) VRANISH, JOHN M.	
	Examiner Prabodh M Dharia	Art Unit 2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. **Status:** Receipt is acknowledged of papers submitted on 12-17-2003 under amendments have been placed of record in the file. Claims 1-34 are pending in this action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle et al. (5,251,322) in view of Vranish (5,373,245) and Wunderman et al. (6,122,042).

Regarding Claim 1, Doyle et al. teaches a three-dimensional (3-D) interactive display (Col. 32, Lines 55-61, Col. 4, Lines 45-51) comprising: a display monitor screen (Col. 4, 51-55, Col. 16, Lines 53-55, Col. 32, Lines 61-63); an array of pixels disposed upon the monitor screen (Col. 16, Lines 53-68).

However, Doyle et al. fails to teach pixels are capaciflective, capaciflective camera, transparent capaciflector and intrusion of a probe disposed in front of the monitor.

However, Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61), capaciflective camera (Col. 1, Lines 65,66, Col. 3, Lines 62), transparent capaciflector (Col. 2, Lines 20-24, Lines 45-48, Lines 53-56, Col. 5, Lines 37-45, Lines 49-52) and intrusion of a probe disposed in front of the monitor (Col. 5, Lines 10-16, Col. 4, line 60 to Col. 5, Line 9).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Vranish in Doyle et al. teaching for improvements in a 3D display system to provide a capacitive camera that will provide 3-D image in close proximity.

Doyle et al. teaches a three-dimensional (3-D) interactive display (Col. 32, Lines 55-61, Col. 4, Lines 45-51) comprising: a display monitor screen (Col. 4, 51-55, Col. 16, Lines 53-55, Col. 32, Lines 61-63); an array of pixels disposed upon the monitor screen (Col. 16, Lines 53-68).

However, Doyle et al fails to teach a first group of sensor pads connected to ones of the array of capaciflective pixels; a second group of sensor pads connected to ones of the array of capaciflective pixels, capaciflective pixels connected to the first group of sensor pads not being connected to the second group of sensor pads; and an operational amplifier connected to each of the sensor pads, each the operational amplifier biasing and receiving a signal from a connected sensor pad responsive to intrusion of a probe, the signal being proportional to probe positional location with respect to the monitor screen.

However, Wunderman et al. teach a first group of sensor pads connected to ones of the array of pixels (114 of figure 6A, Col. 22, Lines 19,20); a second group of sensor pads connected to ones of the array of pixels (116 of figure 6A, Col. 22, Lines 21,22), pixels connected to the first group of sensor pads not being connected to the second group of sensor pads (Col. 22, Lines 40-42); and an operational amplifier connected to each of the sensor pads, each the operational amplifier biasing (Col. 22, Lines 19-30) and receiving a signal from a connected sensor pad responsive to intrusion of a probe, the signal being proportional to probe positional location with respect to the monitor screen (Col. 8, Lines 36-41, Col. 21, Line 32 to Col. 22, Line 10, Col. 29,

Lines 44-61). Wunderman et al. does not specifically teach about capaciflective pixels, however, as explained above capaciflective pixels are close proximity capacitive touch sensor detects the object at a given range; Wunderman et al. teaches photo-sensor and detector which are also close proximity capacitive touch sensor detects the object at a given range.

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Wunderman et al. in Doyle et al. teaching for improvements in a display driver apparatus, so as to enhance capability of 3D display system.

Regarding Claim 2, Wunderman et al. teaches a transparent shield layer disposed between the monitor screen and the array of pixels (Col. 27, Line 58 to Col. 28, Line 8, Col. 28, Lines 23-30, Col. 29, lines 22-39).

Regarding Claim 3, Wunderman et al. teaches a first group of sensor pads connected to ones of the array of pixels (114 of figure 6A, Col. 22, Lines 19,20) are column (Col. 29, Line 44 to Col. 30, Line 27); a second group of sensor pads connected to ones of the array of pixels (116 of figure 6A, Col. 22, Lines 21,22) are row (Col. 29, Line 44 to Col. 30, Line 27). Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61).

Regarding Claim 4, Wunderman et al. teaches pixels connected to each sensor pad of the first group (114 of figure 6A, Col. 22, Lines 19,20) and the second group (116 of figure 6A, Col. 22, Lines 21,22) comprises: a plurality of parallel wires; a turnaround at one end of the plurality

of parallel wires; and a sensor pad at an opposite end of the plurality of parallel wires (Col. 22, Lines 11-31). Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61).

Regarding Claim 5, Wunderman et al. teaches the plurality of parallel wires comprises five wires spaced a half a centimeter apart (Col. 22, Line 31-34), each of the wires spanning the display screen like LCD or TV (Col. 22, Lines 8-10, Col. 27, Lines 45-47, Line 65 to Col. 28, Line 12).

4. Claims 6-15, are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle et al. (5,251,322) in view of Vranish (5,373,245) and Wunderman et al. (6,122,042) as applied to claims 1-5 above, and further in view of Resman (6,459,424 B1).

Regarding Claim 6, Doyle et al. teaches a three-dimensional (3-D) interactive display (Col. 32, Lines 55-61, Col. 4, Lines 45-51) comprising: a display monitor screen (Col. 4, 51-55, Col. 16, Lines 53-55, Col. 32, Lines 61-63); an array of pixels disposed upon the monitor screen (Col. 16, Lines 53-68). Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61). Wunderman et al. teach a first group of sensor pads connected to ones of the array of pixels (114 of figure 6A, Col. 22, Lines 19,20); a second group of sensor pads connected to ones of the array of pixels (116 of figure 6A, Col. 22, Lines 21,22), pixels connected to the first group of sensor pads not being connected to the second group of sensor pads (Col. 22, Lines 40-42); and an operational amplifier connected to each of the sensor pads, each the operational amplifier biasing (Col. 22, Lines 19-30) and receiving a signal from a connected sensor pad responsive to intrusion

of a probe, the signal being proportional to probe positional location with respect to the monitor screen (Col. 8, Lines 36-41, Col. 21, Line 32 to Col. 22, Line 10, Col. 29, Lines 44-61).

However, Doyle et al. modified by Vranish and Wunderman et al. fails to teach capacitive touch sensitive panel mounted on the monitor wired as grid; and each of the parallel wires are silver.

However, Resman teaches capacitive touch sensitive panel mounted on the monitor wired as grid (Col. 9, Lines 7-9) each of the parallel wires are silver (Col. 2, Line 24-28).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Resman in Doyle et al. modified by Vranish and Wunderman et al. teaching for improvements in a display driver apparatus, so as to enhance capability of 3D display system.

Regarding Claim 7, Wunderman et al. teaches a protective coating over the array (Col. 27, Line 58 to Col. 28, Line 8, Col. 28, Lines 23-30, Col. 29, lines 22-39)..

Regarding Claim 8, Wunderman et al. teaches each of the pixels is a transparent conductive plate (Col. 25, Lines 31-33, Lines 56-60). Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61).

Regarding Claim 9, Wunderman et al. teaches pixels connected to each sensor pad of the first group (114 of figure 6A, Col. 22, Lines 19,20) and the second group (116 of figure 6A, Col. 22, Lines 21,22). Resman teaches pixels (Col. 4, Lines 4-14) are arranged in alternating pixels

and spaces such that when capaciflective pixels connected to sensor pads from the first group are overlaid by capaciflective pixels from the second group, the display screen is covered with a single layer of alternating pixels from either group (Col. 8, Lines 2-11, Line 58 to Col. 9, Line7). Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61).

Regarding Claim 10, Resman teaches each of the pixels are transparent semiconductor and are formed on the glass (Col. 8, Line 51 to Col. 9, line 7) and are quite a large number (more than a million pixels) organized on small area, it is obvious to one in the ordinary skill in the art the size of the pixel is in the range of few square micro meter, (square 25 Um). Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61).

Regarding Claim 11, Resman teaches the transparent shield layer is a thick layer of conductive glass, the shield layer (Col. 8, Line 51 to Col. 9, line 7) and the pixels being biased and driven identically (Col. 4, Lines 4-14, Col. 8, Line 51 to Col. 9, line 7). Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61).

Regarding Claim 12, Resman teaches each of the pixels are transparent semiconductor and are formed on the glass (Col. 8, Line 51 to Col. 9, line 7) and are quite a large number (more than a million pixels) organized on small area, it is obvious to one in the ordinary skill in the art the size of the pixel is in the range of few square micro meter, (square 25 Um). Vranish teaches pixels are capaciflective (Col. 1, Lines 59-61).

Regarding Claim 13, Resman teaches the shield layer including a shield pad, the shield pad connected to another operational amplifier (Col. 7, Line 64 to Col. 8, Line 2). Doyle et al. teaches a three-dimensional (3-D) interactive display (Col. 32, Lines 55-61, Col. 4, Lines 45-51) comprising: a display monitor screen (Col. 4, 51-55, Col. 16, Lines 53-55, Col. 32, Lines 61-63); an array of pixels disposed upon the monitor screen (Col. 16, Lines 53-68). Varnish teaches a plurality of relatively closely spaced capacitive type proximity sensors (capaciflective) are energized from an oscillator (figure 1a, Col. 4, Lines 9-20) driving operational amplifiers (figure 1a, Col. 4, Lines 9-20) connected to each sensor pad and the shield pad, the shield being biased and driven identically to the capaciflective pixels (Col. 1, Line 59 to Col. 2, Line 52).

Regarding Claim 14, Vranish teaches the oscillator (figure 1a, Col. 4, Lines 9-20). However, Vranish fails to teach frequency being 100 KHz, the oscillator output voltage being 12 volts or less. However it is well known to one in the ordinary skill in the art when specifying a oscillator for ordering off the self or custom ordering to order with specific parameter like output voltage being 12 or less voltage and frequency being 100Khz. Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of off the self ordering or custom ordering in Vranish teaching for improvements in a display driver apparatus, so as to enhance capability of 3D display system.

Regarding Claim 15, Doyle et al. teaches a three-dimensional (3-D) interactive display with computer system (Col. 32, Lines 55-61, Col. 4, Lines 12-62) comprising: a display monitor

screen (Col. 4, 51-55, Col. 16, Lines 53-55, Col. 32, Lines 61-63); an array of pixels disposed upon the monitor screen (Col. 16, Lines 53-68).

5. Claims 16-18, 24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vranish (5,373,245).

Regarding Claim 16, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19).

However, Varnish does not specifically teaches the sensor pad.

However, it is obvious to one in the ordinary skill in the art that the sensor pad and sensor has to be in the same layer to be bonded with silver wire to avoid any cross-talk or EMI interference. Vranish teaches the method comprising the steps of: a) forming a shield layer on a non-conductive substrate (Col. 6, line 6,7, Col. 7, Line 31,32, shield are attached to surface 15 (substrate)) the shield layer being a transparent layer (Col. 2, Lines 20-24, Lines 45-48, Lines 53-56, Col. 5, Lines 37-45, Lines 49-52) of conductive material (Col. 4, Lines60-65, Col. 3, Lines 2,3) ; b) forming a first dielectric layer on the shield layer (Col. 3, Lines 2,3, Col. 5, Line 67 to Col. 6, Line 2) c) forming a first sensor (which will be connected to the wire to a pad) layer on a first dielectric layer; d) forming a second dielectric layer over the first sensor (which will be connected via wire to a pad) layer; e) forming a second sensor (which will be connected to the wire to a pad) layer over the second dielectric layer; and f) forming a protective coating layer on the second sensor (which will be connected to the wire to a pad) layer (figure 4b,4c,4d, Col. 2, Line 64 to Col. 3, Line 20, Col. 5, Line 61 to Col. 6, Line 18, Col. 6, Line 64 to Col. 7, Line 37).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of sensor pads and sensors being on the same layer in Vranish teaching so as to reduce cross-talk and EMI interference in the oscillator driven op-amp driving capaciflector sensors in a 3D display systems.

Regarding Claim 17, Vranish teaches al) forming a shield layer on a non-conductive substrate, the shield being a transparent layer of conductive material; and a2) forming the first dielectric layer on the shield layer (Col. 5, Line 61 to Col. 6, Line 10).

Regarding Claim 18, Vranish teaches the second sensor (which will be connected to the wire to a pad) layer is formed orthogonally to the first sensor (which will be connected to the wire to a pad) layer (Col. 6, Lines 7-10).

Regarding Claim 24, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19); the method comprising the steps of: a) forming a first sensor (which will be connected to the wire to a pad) layer on a first dielectric layer; b) forming a second dielectric layer over the first sensor (which will be connected to the wire to a pad) layer; c) forming a second sensor (which will be connected to the wire to a pad) layer over the second dielectric layer; and d) forming a protective coating layer on the second sensor (which will be connected to the wire to a pad) layer (figure 4b,4c,4d, Col. 2, Line 64 to Col. 3, Line 20, Col. 5, Line 61 to Col. 6, Line 18, Col. 6, Line 64 to Col. 7, Line 37).

6. Claim 19, is rejected under 35 U.S.C. 103(a) as being unpatentable over Vranish (5,373,245) in view of Wunderman et al. (6,122,042).

Regarding Claim 19, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19).

However, Vranish fails to teach pixels connected to each sensor pad of the first group and the second group comprises: a plurality of parallel wires; a turnaround at one end of the plurality of parallel wires; and a sensor pad at an opposite end of the plurality of parallel wires.

However, Wunderman et al. teaches pixels connected to each sensor pad of the first group (114 of figure 6A, Col. 22, Lines 19,20) and the second group (116 of figure 6A, Col. 22, Lines 21,22) comprises: a plurality of parallel wires; a turnaround at one end of the plurality of parallel wires; and a sensor pad at an opposite end of the plurality of parallel wires (Col. 22, Lines 11-31).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Wunderman et al. in Vranish teaching for improvements in a display driver apparatus, so as to enhance capability of 3D display system.

7. Claims 20-23,25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vranish (5,373,245) in view of Wunderman et al. (6,122,042) as applied to claim 19 above, and further in view of Resman (6,459,424 B1).

Regarding Claim 20, Vranish modified by Wunderman et al. teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19).

However, Vranish modified by Wunderman et al. fails to teach capacitive touch sensitive panel mounted on the monitor wired as grid and each of the parallel wires are silver.

However, Resman teaches capacitive touch sensitive panel mounted on the monitor wired as grid (Col. 9, Lines 7-9) each of the parallel wires are silver (Col. 2, Line 24-28).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Resman in Vranish modified by Wunderman et al. teaching for improvements in a display driver apparatus, so as to enhance capability of 3D display system.

Regarding Claim 21, Resman teaches each of the pixels are transparent semiconductor and are formed on the glass (Col. 8, Line 51 to Col. 9, line 7) and are quite a large number (more than a million pixels) organized on small area, it is obvious to one in the ordinary skill in the art the size of the pixel is in the range of few square micro meter, (square 25 Um). Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19).

Regarding Claim 22, Resman teaches forming a shield pad on the conductive glass layer (Col. 8, Line 51 to Col. 9, line 7).

Regarding Claim 23, Wunderman et al. teaches pixels connected to each sensor pad of the first group (114 of figure 6A, Col. 22, Lines 19,20) and the second group (116 of figure 6A,

Col. 22, Lines 21,22) comprises: a plurality of parallel wires; a turnaround at one end of the plurality of parallel wires; and a sensor pad at an opposite end of the plurality of parallel wires (Col. 22, Lines 11-31).

Regarding Claim 25, Resman teaches each of the pixels are transparent semiconductor and are formed on the glass (Col. 8, Line 51 to Col. 9, line 7) and are quite a large number (more than a million pixels) organized on small area, it is obvious to one in the ordinary skill in the art the size of the pixel is in the range of few square micro meter, (square 25 Um).

8. Claim 26, is rejected under 35 U.S.C. 103(a) as being unpatentable over Vranish (5,373,245).

Regarding Claim 26, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19) and the second sensor (which will be connected to the wire to a pad) layer is formed orthogonally to the first sensor (which will be connected to the wire to a pad) layer (Col. 6, Lines 7-10).

However, Varnish does not specifically teaches the sensor pad.

However, it is obvious to one in the ordinary skill in the art that the sensor pad and sensor has to be in the same layer to be bonded with silver wire to avoid any cross-talk or EMI interference. Vranish teaches the method comprising the steps of: a) forming a first sensor (which will be connected to the wire to a pad) layer on a first dielectric layer; b) forming a second dielectric layer over the first sensor (which will be connected via wire to a pad) layer; c) forming a second sensor (which will be connected to the wire to a pad) layer over the second

dielectric layer; and d) forming a protective coating layer on the second sensor (which will be connected to the wire to a pad) layer (figure 4b,4c,4d, Col. 2, Line 64 to Col. 3, Line 20, Col. 5, Line 61 to Col. 6, Line 18, Col. 6, Line 64 to Col. 7, Line 37).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of sensor pads and sensors being on the same layer in Vranish teaching so as to reduce cross-talk and EMI interference in the oscillator driven op-amp driving capaciflector sensors in a 3D display systems.

9. Claim 27, is rejected under 35 U.S.C. 103(a) as being unpatentable over Vranish (5,373,245) in view of Wunderman et al. (6,122,042).

Regarding Claim 27, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19).

However, Vranish fails to teach pixels connected to each sensor pad of the first group and the second group comprises: a plurality of parallel wires; a turnaround at one end of the plurality of parallel wires; and a sensor pad at an opposite end of the plurality of parallel wires.

However, Wunderman et al. teaches pixels connected to each sensor pad of the first group (114 of figure 6A, Col. 22, Lines 19,20) and the second group (116 of figure 6A, Col. 22, Lines 21,22) comprises: a plurality of parallel wires; a turnaround at one end of the plurality of parallel wires; and a sensor pad at an opposite end of the plurality of parallel wires (Col. 22, Lines 11-31).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Wunderman et al. in Vranish teaching for improvements in a display driver apparatus, so as to enhance capability of 3D display system.

10. Claims 28-30,34, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vranish (5,373,245) in view of Wunderman et al. (6,122,042) as applied to claims 26,27 above, and further in view of Resman (6,459,424 B1).

Regarding Claim 28, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19) and Wunderman et al. teaches the plurality of parallel wires comprises five wires spaced a half a centimeter apart (Col. 22, Line 31-34), each of the wires spanning the display screen like LCD or TV (Col. 22, Lines 8-10, Col. 27, Lines 45-47, Line 65 to Col. 28, Line 12).

However, Vranish modified by Wunderman et al. fails to teach capacitive touch sensitive panel mounted on the monitor wired as grid each of the parallel wires are silver.

However, Resman teaches capacitive touch sensitive panel mounted on the monitor wired as grid (Col. 9, Lines 7-9) each of the parallel wires are silver (Col. 2, Line 24-28) and

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Resman in Vranish modified by Wunderman et al. teaching for improvements in a display driver apparatus, so as to enhance capability of 3D display system.

Regarding Claim 29, Resman teaches each of the pixels are transparent semiconductor and are formed on the glass (Col. 8, Line 51 to Col. 9, line 7) and are quite a large number (more than a million pixels) organized on small area, it is obvious to one in the ordinary skill in the art the size of the pixel is in the range of few square micro meter, (square 25 Um). Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19) and includes a shield pad disposed at one side (Col. 4, Lines 12-17).

Regarding Claim 30, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19) and includes a sensor pad and a shield pad disposed at one side (Col. 4, Lines 12-17). Resman teaches capacitive touch sensitive panel mounted on the monitor wired as grid (Col. 9, Lines 7-9) each of the parallel wires are silver (Col. 2, Line 24-28) and Vranish teaches extending upward from the sensor pad or the shield pad (Col. 5, Lines 63-66) to an upper surface of the surface dielectric layer (Col. 3, Lines 3-9).

Regarding Claim 34, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19) and includes a sensor pad and a shield pad disposed at one side (Col. 4, Lines 12-17). Resman teaches capacitive touch sensitive panel mounted on the monitor wired as grid (Col. 9, Lines 7-9) each of the parallel wires are silver (Col. 2, Line 24-28) and Vranish teaches extending upward from the sensor pad or the shield pad (Col. 5, Lines 63-66) to an upper surface of the surface dielectric layer (Col. 3, Lines 3-9).

11. Claims 31,32, are rejected under 35 U.S.C. 103(a) as being unpatentable over Vranish (5,373,245).

Regarding Claim 31, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19) and the second sensor (which will be connected to the wire to a pad) layer is formed orthogonally to the first sensor (which will be connected to the wire to a pad) layer (Col. 6, Lines 7-10).

However, Varnish does not specifically teaches the sensor pad.

However, it is obvious to one in the ordinary skill in the art that the sensor pad and sensor has to be in the same layer to be bonded with silver wire to avoid any cross-talk or EMI interference. Vranish teaches the method comprising the steps of: a) forming a first sensor (which will be connected to the wire to a pad) layer on a first dielectric layer; b) forming a second dielectric layer over the first sensor (which will be connected via wire to a pad) layer; c) forming a second sensor (which will be connected to the wire to a pad) layer over the second dielectric layer; and d) forming a protective coating layer on the second sensor (which will be connected to the wire to a pad) layer (figure 4b,4c,4d, Col. 2, Line 64 to Col. 3, Line 20, Col. 5, Line 61 to Col. 6, Line 18, Col. 6, Line 64 to Col. 7, Line 37).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of sensor pads and sensors being on the same layer in Vranish teaching so as to reduce cross-talk and EMI interference in the oscillator driven op-amp driving capaciflector sensors in a 3D display systems.

Regarding Claim 32, Vranish teaches the second sensor (which will be connected to the wire to a pad) layer is formed orthogonally to the first sensor (which will be connected to the wire to a pad) layer (Col. 6, Lines 7-10).

12. Claim 33, is rejected under 35 U.S.C. 103(a) as being unpatentable over Vranish (5,373,245) in view of Resman (6,459,424 B1).

Regarding Claim 33, Vranish teaches a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19) and a method of forming a transparent capaciflector camera (Col. 2, Lines 25,26, figure 4d, Col. 4, Lines 18,19) and includes a shield pad disposed at one side (Col. 4, Lines 12-17).

However, Vranish fails to teach the size of the pixel is 25 um. thick layer of conductive glass.

However, Resman teaches each of the pixels are transparent semiconductor and are formed on the glass (Col. 8, Line 51 to Col. 9, line 7) and are quite a large number (more than a million pixels) organized on small area, it is obvious to one in the ordinary skill in the art the size of the pixel is in the range of few square micro meter, (square 25 Um).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Resman in Vranish teaching for improvements in a display driver apparatus, so as to enhance capability of 3D display system.

Response to Arguments

13. Applicant's arguments filed 11-04-2003 have been fully considered but they are not persuasive.

Applicant argues that Varnish does not teach computer operated interactive 3-D display.

Examiner disagrees as Varnish teaches the capaciflector camera application will be for a robotic operation (Col. 2, lines 20-28). It is well known to one in the ordinary skill in the art that all the robotics operate with computer or controlled by computer. Since Varnish teaches 3-D images using capaciflector camera with computer controlled resulting display will be an interactive and the device is capable of being used on a computer.

Applicant argues the prior arts fails to mteach intrusion of a object disposed in the front of the monitor screen.

Examiner disagrees as Varnish teaches specifically designed for robotic exploration, specifically to in obstacle avoidance and navigation (Col. 4, Lines 6-8, Col. 4, Line 54 to Col. 5, 16).

Applicant argues the prior art fails to teach a transparent capaciflector camera.

Examiner disagrees Varnish teaches transparent capaciflector (Col. 2, Lines 20-24, Lines 45-48, Lines 53-56, Col. 5, Lines 37-45, Lines 49-52).

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is informed that all of the other additional cited references render the claims obvious.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M Dharia whose telephone number is 703-605-1231. The examiner can normally be reached on M-F 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-3054938. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9341 for regular communications and 703-872-9341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

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December 17, 2003

VIJAY SHANKAR
PRIMARY EXAMINER